

We claim:

1. A conveyor belt system comprising:

a first beam formed by bending a single sheet of metal to define a first interior channel;

5 a second beam formed by bending a single sheet of metal to define a second interior channel;

a connector having a body formed by bending a single sheet of metal to define a horizontal face and a pair of side walls, wherein a first portion of the connector is positioned within the first interior channel to form a friction fit therewith and wherein a  
10 second portion of the connector is positioned within the second interior channel to form a friction fit therewith; and

a conveyor belt having a plurality of interlocking plastic segments and having an upper portion extending above the first and second beam and a lower portion extending below the first and second beam.

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2. The conveyor belt system of claim 1, wherein the first beam comprises an upper surface bounded by parallel bends extending from end to end of the first beam and joining inclined walls on each side, and wherein the second beam comprises an upper surface bounded by parallel bends extending from end to end of the second beam and  
20 joining inclined walls on each side.

3. The conveyor belt system of claim 2, wherein the first beam further comprises a first track defined by a left and right side bottom portion each of which is bounded by a

bend extending from end to end of the first beam and each of which joins a respective one of the inclined walls, and wherein the second beam further comprises a second track defined by a left and right side bottom portion each of which is bounded by a bend extending from end to end of the first beam and each of which joins a respective one of the inclined walls, and wherein the first track joins the second track and supports the lower portion of the conveyor belt.

4. The conveyor belt system of claim 1, wherein the connector further comprises a pair of rods extending from end to end of the body and wherein a first portion of the pair of rods is positioned within the first interior channel to form a friction therewith and wherein a second portion of the pair of rods is positioned within the second interior channel to form a friction fit therewith.

5. The conveyor belt system of claim 1, further comprising pairs of arms intermittently spaced along the first and second conveyor beams, wherein each pair of arms has an upper member and a lower member extending therebetween.

6. The conveyor belt system of claim 5, wherein the upper member comprises a compression member and wherein the lower member comprises a tension member.

7. The conveyor belt system of claim 1, wherein:

the first beam comprises an upper surface bounded by parallel bends extending from end to end of the first beam and joining inclined walls on each side, and wherein

the second beam comprises an upper surface bounded by parallel bends extending from end to end of the second beam and joining inclined walls on each side; and

the connector further comprises a pair of rods extending from end to end of the  
5 body and wherein a first portion of the pair of rods is positioned within the first interior channel to form a friction therewith and wherein a second portion of the pair of rods is positioned within the second interior channel to form a friction fit therewith; and wherein

the conveyor belt system further comprises pairs of arms intermittently spaced along the first and second conveyor beams, wherein each pair of arms has an upper  
10 member and a lower member extending therebetween.

8. A conveyor housing especially suited for supporting a conveyor belt having a plurality of interlocking plastic segments comprising:

5 a first conveyor beam having an inclined right side wall connected to an inclined left side wall and a first interior channel defined therebetween;

a second conveyor beam having an inclined right side wall connected to an inclined left side wall and a second interior channel defined therebetween;

10 a connector positioned within the first interior channel and the second interior channel to connect the first conveyor beam with the second conveyor beam;

a pair of arms positioned along opposite sides of the first conveyor beam and configured to support an upper portion of a conveyor belt; and

15 a tension and a compression member positioned between the pair of arms and configured so that the tension member pulls the pair of arms together and the compression member prevents the pair of arms from collapsing together so that the pair of arms forms a friction fit with the first conveyor beam.

20 9. The conveyor housing of claim 8, wherein the first conveyor beam further has a horizontal face extending between and connecting the inclined right side wall and the inclined left side wall and wherein the first interior channel is further defined by the

horizontal face, and wherein the second conveyor beam further has a horizontal face extending between and connecting the inclined right side wall and the inclined left side wall and wherein the second interior channel is further defined by the horizontal face.

5 10. The conveyor housing of claim 9, wherein first conveyor beam further comprises a first lower track positioned below the horizontal face and configured to support a lower portion of a conveyor belt, and wherein the second conveyor beam further comprises a second lower track aligned with the first lower track, positioned below the horizontal face and configured to support a lower portion of a conveyor belt.

10 11. The conveyor housing of claim 9, wherein in the first conveyor beam the inclined right side wall and the inclined left side wall each meet the horizontal face at an acute angle, and wherein in the second conveyor beam the inclined right side wall and the inclined left side wall each meet the horizontal face at an acute angle.

15 12. The conveyor housing of claim 8, wherein the connector comprises a horizontal face and a pair of side walls extending from the horizontal face and wherein the pair of side walls forms a friction fit with the first interior channel and the second interior channel to connect the first conveyor beam with the second conveyor beam.

20 13. The conveyor housing of claim 12, wherein the connector further comprises a pair of rods extending along the length of the connector, wherein the pair of rods run parallel to a bottom end of the pair of side walls and wherein the pair of rods form a

friction fit with one side of the first and second interior channels and the bottom end of the pair of side walls from a friction fit with an opposite side of the first and second interior channels.

5 14. The conveyor housing of claim 8, further comprising a plurality of pairs of arms positioned along opposite sides of the first and second conveyor beams attached on an upper end to a track configured to support an upper portion of the conveyor belt.

10 15. The conveyor housing of claim 8, wherein the first and second conveyor beams are each formed from a single sheet of stainless steel.

16. The conveyor housing of claim 8, wherein:

the first conveyor beam is formed from a single sheet of stainless steel and further has a horizontal face extending between and connecting the inclined right side wall and the inclined left side wall and wherein the first interior channel is further defined by the horizontal face and further comprises first lower track positioned below the horizontal face and configured to support a lower portion of a conveyor belt;

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the second conveyor beam is formed from a single sheet of stainless steel and further has horizontal face extending between and connecting the inclined right side wall and the inclined left side wall and wherein the second interior channel is further defined by the horizontal face and further comprises a second lower track aligned with the first lower track, positioned below the horizontal face and configured to support a lower portion of a conveyor belt; and

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the connector is formed from a single sheet of stainless steel and comprises a horizontal face and a pair of side walls extending from the horizontal face and wherein the pair of side walls forms a friction fit with the first interior channel and the second interior channel to connect the first conveyor beam with the second conveyor beam.